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Mr. Harinder Singh  
Appliance Program Engineer  
California Energy Commission  
1516 Ninth Street, MS25  
Sacramento, CA 95814

Re: **Further ESA Comments on 2009 Rulemaking Proceeding on Appliance Efficiency Regulations Phase II**

Dear Mr. Singh:

Both the Entertainment Software Association and Sony Computer Entertainment of America appreciated the opportunity to speak with you and your team last month about your forthcoming energy efficiency scoping order, and to provide you further background about our industry's products. During the meeting, your team raised several questions seeking additional follow-up. We've consulted with our members, and below please find our responses.

***1. How are game consoles different from computers and set-top boxes?***

You requested clarification on the ways in which game consoles differ from computers. Here are some of the key defining characteristics of game consoles:

- *Predominant purpose of gameplay.* Unlike computers, game consoles are designed for one predominant purpose, enabling gameplay. That purpose is reflected in a multitude of ways, including: a software library focused nearly exclusively on games and related applications, the marketing of the devices (e.g., sold in specialty video game retail outlets or in the "video games" section of big box retailers), their industrial design, their placement within the home (e.g., the family room), their game-optimized operating systems and hardware components, and their specialized controllers and input devices. Given these differences, and perhaps others, it is not surprising that the EPA appears to view game consoles as distinct from computers.<sup>1</sup>
- *Fixed hardware configuration that remains static for years.* Computer makers update their configurations constantly. Console makers do so far less often. In fact, console

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<sup>1</sup> The EPA has opted not to include game consoles within its current ENERGY STAR specification for computers but instead is developing a separate specification for game consoles. See Section 2.2, "Excluded Products," [ENERGY STAR Program Requirements for Computers \(Version 5.2\)](#).

makers lock the platform configuration to ensure a consistent user experience, and that configuration remains constant throughout the entire product lifecycle. Five years or more may separate the rollout of successive generations of a console system, based upon historical averages.<sup>2</sup> We are aware of no computer maker who updates the configuration of its flagship PC only once every five years. Another significant distinction is that most computer makers encourage some degree of customization to the base hardware configuration. Again, for reasons of ensuring a consistent user experience, game consoles have a locked configuration that cannot be customized apart from the addition of extra storage capacity.<sup>3</sup>

- *Software ecosystem linked to a specific manufacturer.* The vast majority of software available for Windows-based personal computers runs on hardware made by multiple manufacturers (e.g., Dell, HP, Asus, etc.). In contrast, games for consoles only run on the equipment of the specific manufacturer for which the publisher developed the game. Because game consoles tend to have long lifecycles, software titles tend to be supported for longer periods of time on a game console than they do on a PC.
- *Hardwired to implement game industry's rating system.* All three of the current generation console systems have built-in parental controls which implement an industry-standard content rating system specific to games. None of the current generation consoles will play software that lacks a rating by the Entertainment Software Rating Board. Personal computers, on the other hand, have no prerequisite for a rating to attach in order for the software to be usable.
- *No idle mode.* Game consoles are designed to entertain, and console makers tailor every facet of the user experience toward that key objective. Unlike the typical static desktop on a PC, the navigation menus of a game console are animated and dynamically updated. Also, when a game is paused, the game is still loaded into the system's memory and running, and thus requires a power level comparable to gameplay. Pausing a game often will trigger the display of a menu with further game options.<sup>4</sup> In short, there is no "idle" mode with a game console.
- *Different than set-top boxes.* Game consoles differ from set-top boxes in several key respects. The type and degree of interactivity is much different. Interactivity with set-top boxes involves navigating simple menus; interactivity with games involves

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<sup>2</sup> Importantly, the cost and profit models for the game industry also differ from the PC industry. Often, console makers sell units early in the lifecycle at a loss and earn higher per-unit profits later, when the component costs for the fixed configuration drop over time. PC makers, on the other hand, use the changing costs of components to offer better/faster systems at the same price as the old systems.

<sup>3</sup> Although the base configuration remains the same throughout the console's lifecycle, console makers do periodically refresh the chipsets with improved versions of the same configuration. This may include, for example, updated chips which are more energy efficient than prior versions.

<sup>4</sup> There are some scenarios where pausing the game would be impractical. For example, a gamer cannot pause live gameplay in a multiplayer online shooter game. Disengaging from such a game, even for a few moments, often leads to speedy elimination.

complex reasoning skills and highly developed hand-eye coordination using specialized controllers and input devices. Set-top boxes have a predominant purpose of offering video programming, which is not the predominant purpose of game consoles. Unlike most set-top boxes, game consoles include dozens of third party software applications. To the extent that set-top boxes have games, they typically offer less complex games that are not as process-demanding as high-end console titles.

***2. Do your members agree with the data/figures NRDC has asserted in making its game console proposal?***

Based upon our preliminary analysis, NRDC's conclusions appear to be based upon some faulty assumptions. By way of illustration, we briefly mention two examples.

First, the assumptions that form the basis of NRDC's media standard are inappropriate. What constitutes "media" is not well defined, in terms of the vehicle for delivery, but it appears that NRDC contemplates disc playback and media streaming. NRDC appears to base its Tier 2 Media standard upon the baselines of the most energy efficient, stand-alone Blu-ray player and the energy consumption of one game console when streaming standard definition video. However, the benchmarks it cites are not good ones.

It is unreasonable to compare the energy profile of a device streamlined for one function (media playback) to the energy expended for that same function by a multipurpose device optimized for a different predominant purpose (games). A stand-alone DVD player has video processing chipsets limited to media playback, whereas a game console's DVD player and corresponding video processing chipsets must serve the more demanding requirements of gameplay in addition to media playback. Current game consoles cannot scale power consumption significantly depending upon the functionality being used. Achieving the 25W standard proposed by NRDC may require console makers to build in additional, dedicated-use silicon and support circuitry for the sole purpose of playing back DVDs. As we explained in our filing, the cost of doing so may preclude this ancillary feature altogether.

We similarly question the propriety of using power consumption of standard definition streaming as a benchmark. The energy required for decoding and displaying streaming media is directly related to the amount of information to be decoded per unit of time. Any meaningful requirement addressing media streaming would have to allow for various codecs that require more complex processing at a higher rate of speed (e.g., HD streaming, 3D streaming).

Second, NRDC's standard is based upon the inaccurate assumption that game consoles have an idle mode. They do not. As noted above, when the console is not active playing a game or playing back media, it is nonetheless handling other tasks for the user's benefit. For example, navigation menus often include continually refreshed content announcing new games and other content, upcoming game events, and updated status information

customized to that particular user. Consumers have come to expect this dynamic approach, which is critical to providing an engaging user experience.

Finally, the APD proposal described in Appendix A appears to draw from an earlier, outdated draft. It does not reflect the industry's position.

Our members continue to review the NRDC proposal and data. Of course, to the extent we are able to provide additional input on specific data elements, we will do so.

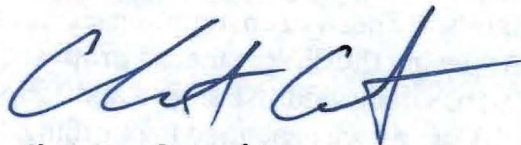
**3. *What energy efficiency features will the next generation console systems have?***

Few consumer electronics generate as much public interest at their launch as new game consoles. For this reason, there is intense media interest in whether new systems are on the horizon, when they may launch, and what features, functions, and specifications they will have. All of that information is closely guarded and business confidential owing to the highly competitive nature of the marketplace. ESA cannot speculate about what features any next generation systems may have.

We recall that you also asked about the percentage of users who turn off their game consoles when not in use. We are researching that question with our members, and will get back to you if we have any further information we can provide.

Thank you, again, for inviting our industry's input on game console product and market-related issues. If you have further questions about the information we've provided here, please let us know.

Respectfully submitted,



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